**DEPARTMENT OF TRANSPORTATION**
DIVISION OF ENGINEERING SERVICES
Office of Structural Materials
Quality Assurance and Source Inspection

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Contract #: 04-0120F4
Cty: SF/ALA Rte: 80 PM: 13.2/13.9
File #: 1.28

# WELDING INSPECTION REPORT

**Resident Engineer:** Siegenthaler, Peter
**Address:** 333 Burma Road
**City:** Oakland, CA 94607

**Report No:** WIR-017239
**Date Inspected:** 01-Oct-2010

**Project Name:** SAS Superstructure
**Prime Contractor:** American Bridge/Fluor Enterprises, a JV
**Contractor:** American Bridge/Fluor Enterprises, a JV

**OSM Arrival Time:** 630
**OSM Departure Time:** 1500
**Location:** Jobsite

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| **CWI Name:** | See below | | | **CWI Present:** | ☑ Yes | ☐ No | |
| **Inspected CWI report:** | ☐ Yes | ☑ No | ☐ N/A | **Rod Oven in Use:** | ☑ Yes | ☐ No | ☐ N/A |
| **Electrode to specification:** | ☑ Yes | ☐ No | ☐ N/A | **Weld Procedures Followed:** | ☑ Yes | ☐ No | ☐ N/A |
| **Qualified Welders:** | ☑ Yes | ☐ No | ☐ N/A | **Verified Joint Fit-up:** | ☑ Yes | ☐ No | ☐ N/A |
| **Approved Drawings:** | ☑ Yes | ☐ No | ☐ N/A | **Approved WPS:** | ☑ Yes | ☐ No | ☐ N/A |
| | | | | **Delayed / Cancelled:** | ☐ Yes | ☑ No | ☐ N/A |

**Bridge No:** 34-0006
**Component:** SAS OBG

**Summary of Items Observed:**

On this date CALTRANS OSM Quality Assurance Inspector (QAI) Bert Madison was present at Yerba Buena Island in California between the times noted above for observations relative to the work being performed by American Bridge/Fluor Enterprises (AB/F) personnel at the locations noted below.

1). West Line OBG Field Welding of Diverter Bar and CW Horizontal Lower Lug (SMAW)
2). OBG Field Splice 6W/7W weld ID: F1, Face B (SMAW)
3). OBG Field Splice 6W/7W weld ID: A1 – A5, Face A (QC UT)
4). OBG Field Splice 6W/7W weld ID: A5, Face A (SMAW R-1 Repairs)

1). West Line OBG Field Welding of Diverter Bar and CW Horizontal Lower Lug (SMAW)
The QAI periodically observed AB/F approved welder Eric Sparks (ID 3040) performing fit-up, fillet welding and partial joint penetration (PJP) welding per the Shielded Metal Arc Welding (SMAW) process in the 2F (horizontal) and 3G (vertical) positions to install diverter bar pieces on the counterweight side of the West OBG line at 2W/3W at PP19. QC Inspector Mike Johnson was periodically present to monitor the progress and verify that the welding parameters were within the limits established by the approved welding Procedure Specification (WPS) identified as ABF-WPS-D1.5-F1200A & ABF-WPS-D1.5-1030. Work was completed at this location. Later in the shift the QAI periodically observed AB/F approved welder Eric Sparks (ID 3040) performing fit-up and Complete Joint Penetration (CJP) welding per the SMAW process in the 4G (overhead) and 2G (horizontal) positions to restore a portion of the counter weight assembly horizontal lower lug at the edge plate at PP23 at W1. The QAI observed that the work appeared to be in general compliance with contract documents. QC Inspector Mike Johnson was periodically present to monitor the progress and verify that the welding parameters were within the limits established by the approved welding Procedure Specification (WPS) identified as ABF-WPS-D1.5-1080.

Welding was in process at PP23 and the QAI observed that the work appeared to be in general compliance with contract documents.

2). OBG Field Splice 6W/7W weld ID: F1, Face B (SMAW)

The QAI periodically observed the in process welding of the OBG Field Splice 6W/7W weld ID: F1 on the B face (interior) per the Shielded Metal Arc Welding (SMAW) process in the 3G (vertical) position by approved AB/F welder Yao Xin Liang (ID 7238). QC Inspector Jim Cunningham was present to monitor the progress and verify that the welding parameters were within the limits established by the approved welding Procedure Specification (WPS) identified as ABF-WPS-D1.5-1040B. Welding of the fill and cover passes was in process during the QA Inspector's shift and work at this location appeared to be in general compliance with contract documents.

3). OBG Field Splice 6W/7W weld ID: A1 – A5, Face A (QC UT)

The QAI periodically observed QC Inspector Tom Pasqualone performing Ultrasonic Testing (UT) from the A Face of OBG Field Splice 6W/7W weld ID: A3, A4 & A5. The QAI also periodically observed QC Inspector John Pagliero performing UT from the A Face of OBG Field Splice 6W/7W weld ID: A2 and QC Inspector Jesse Cayabyab performing UT from the A Face of OBG Field Splice 6W/7W weld ID: A1. The QAI periodically observed that the QC Inspectors utilized the UT Procedure identified as SE-UT-D1.5-CT-100 Rev.4 during the examination of the insert weld. The QC technician performed the required longitudinal wave testing utilizing a 1" diameter transducer for base metal soundness and performed the required shear wave testing during the testing for weld soundness utilizing a .63 x .75 rectangular transducer. The QC UT was completed at this location. The QAI noted that the QC inspectors had marked rejectable indications at all of the (5) five weld locations. The work at this location appeared to be in general compliance with contract documents.

4). OBG Field Splice 6W/7W weld ID: A5, Face A (SMAW R-1 Repairs)

The QAI periodically observed AB/F approved welder Bryce Howell (ID 5591) performing grinding to excavate QC UT R-1 repair areas at OBG Field Splice 6W/7W weld ID: A5, face A. Mr. Howell excavated areas at Y = 820mm and Y = 1470mm. The QAI also periodically observed AB/F approved welder Mike Maday performing grinding to excavate QC UT R-1 repair areas at weld A5 location Y = 3920mm. The QAI periodically observed AB/F approved welder Mike Maday performing repair welding of excavated areas per the SMAW process in the 1G (flat) position at Y locations of 820mm, 1470mm and 3920mm. Later in the shift the QAI periodically observed AB/F approved welder Fred Kaddu (ID 2188) (replacing Mr. Maday) and performing grinding to excavate QC UT R-1 repair areas and performing repair welding of excavated areas per the SMAW process in the 1G (flat) position at Y location of 690mm. The QAI periodically observed QC Inspectors Tom Pasqualone and Jim Cunningham performing Magnetic Particle Testing (MT) of excavated R-1 UT repair areas prior to welding. The QAI observed that the performance and evaluation of the MT appeared to comply with the MT procedure identified as SE-MT-CT-D1.5-101 Rev. 4. The QAI periodically observed QC Inspector Tom Pasqualone and later Jim Cunningham were present to monitor the progress and verify that the welding parameters were within the limits established by the approved welding Procedure Specification (WPS) identified as ABF-WPS-D1. 5-1000-Repair. See photos below. Repair welding was in process at this location and the work at this location appeared to be in general compliance with contract documents.

# WELDING INSPECTION REPORT

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**Summary of Conversations:**

In a conversation with QC Lead Inspector Bonafacio Daquinag Jr. at the beginning of the shift, the QAI was told that QC Inspector Jesse Cayabyab was performing UT of repair areas at OBG Field Splices 4W/5W D2, 5W/6W C & 5E/6E D1. Mr. Daquinag stated that if the UT results were acceptable the QAI would be given these locations for verification testing. Later in the shift, the QAI in conversation with QC Jesse Cayabyab was told that only 5E/6E was accepted and the QAI would be given this location for verification testing later in the day. The QAI was not contacted again regarding verification testing of 5E/6E during the duration of the shift.

Other conversations on this date with Quality Control Inspectors were general in nature and pertained to locations of welding and QC activities.

**Comments**

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Mohammed Fatemi (916) 813 3677, who represents the Office of Structural Materials for your project.

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|---|---|---|
| **Inspected By:** | Madison,Bert | Quality Assurance Inspector |
| **Reviewed By:** | Levell,Bill | QA Reviewer |